

## CLAIMS

1. A network terminal device comprising:

a communication portion connecting with a network to perform a communication;

a storage portion for storing a MAC address of a local terminal and a MAC address of a remote terminal and storing an address of an address management server;

a voice processing portion for encoding and decoding a voice signal when a voice communication is performed; and

an input unit operated by a user to start a communication;

wherein when it is detected that an input is made from the input unit by the user for transmission, the MAC address of the remote terminal stored in the storage portion is sent to the address management server to thereby make an inquiry of an IP address of the remote terminal related to said MAC address and wherein when a response of the IP address of the remote terminal is made from the address management server, an access is made to this IP address.

2. The network terminal device set forth in claim 1, wherein the remote terminal is a plurality of network terminal devices making one set.

3. The network terminal device set forth in claim 1, wherein the network terminal device is an IP phone.

4. The network terminal device set forth in claim 2, wherein plural send buttons are provided for each remote terminal, and wherein when a communication is started, one send button is selected from the plural send buttons and an input is made for transmission.

5. The network terminal device set forth in any one of claims 1 to 4, comprising a display unit and an image processing portion for encoding and decoding an image signal when image communication is performed.

6. The network terminal device set forth in any one of claims 1 to 5, wherein when said control unit detects that a user has made an input for transmission from said input unit, the control unit sends MAC address and IP address of the local terminal for registration with said address management server, in addition to the MAC address of the remote terminal.

7. The network terminal device set forth in claim 6, wherein when connection is made with said network, said control unit

broadcasts a request for allotment of an IP address, receives allotment of an IP address from a DHCP server, and informs said address management server that the IP address of the local terminal has been updated by the DHCP server.

8. An address management server comprising:

a communication portion connecting with a network to perform a communication;

a storage portion stored with a conversion table in which MAC addresses of terminal devices and IP addresses of the terminal devices are interrelated; and

a control unit which, when a notice of a MAC address is given from a terminal device, adds the MAC address to the conversion table together with a corresponding IP address and which, when an inquiry of an IP address is made using a MAC address, gives a notice of the IP address, if the IP address is present in the conversion table.

9. The address management server set forth in claim 8, wherein when a notice that an IP address has been updated by a DHCP server is given from a terminal device, the IP address in the conversion table is updated.

10. A network communication method comprising the steps of:

storing a MAC address of a local terminal, a MAC address of a remote terminal, and an IP address of an address management server in a terminal device;

connecting the terminal device with a network and gaining an IP address;

making an inquiry to the address management server as to an IP address corresponding to the MAC address of the remote terminal; and

making an access to the IP address of the remote terminal when the address management server makes a response of this IP address.

11. A communication system comprising:

a plurality of network terminal devices each having a communication portion connecting with a network to perform a communication, a storage portion for storing a MAC address of a local terminal and a MAC address of a remote terminal and storing an address of an address management server, and an input unit operated by a user to start a communication; and

the address management server having a communication portion connecting with a network to perform a communication,

a storage portion stored with a conversion cable in which the MAC addresses of the network terminal devices and IP addresses of the network terminal devices are interrelated, and a control unit which, when a notice of a MAC address is given from a network terminal device, adds the MAC address to the conversion table together with a corresponding IP address and which, when an inquiry of an IP address is made using a MAC address, gives a notice of the IP address, if it is present in the conversion table;

wherein a notice of the IP address of the remote terminal is given to the plurality of network terminal devices from the address management server and then the network terminal devices make an access to this IP address and perform direct communication between the network terminal devices.

12. The communication system set forth in claim 11, further including a DNS server having a communication portion connected with a network to perform a communication, a storage portion stored with a conversion table in which domain names of the network terminal devices and IP addresses of the network terminal devices are interrelated, and a control unit which, when an inquiry of an IP address is made using a domain name from a network terminal device, gives a notice of this IP address if it is present in the conversion table, and wherein a notice of the IP address of the remote terminal is given to the plurality

of network terminal devices from the DNS server and then the network terminal devices make an access to this IP address and perform direct communication between the network terminal devices.

13. The communication system set forth in claim 12, wherein said DNS server is an ENUM server.

14. The communication system set forth in claim 12, further including a DHCP server for dynamically assigning the IP addresses of said plurality of network terminal devices, and wherein when the IP addresses are dynamically assigned by the DHCP server, the network terminal devices update an IP address of the address management server or of the DNS server.